ICF-1170I Series

Industrial CANbus-to-fiber converter

- Transmits up to 2 km over optical fiber
- Converts CAN signals to fiber and fiber to CAN signals
- Baudrate up to 1 Mbps
- Dual power inputs for redundancy
- DIP switch for 120 Ω terminal resistance
- DIP switch for fiber test mode
- LEDs for Fiber TX, Fiber RX, Power 1, Power 2
- Wide temperature model available for -40 to 85°C environments
- Fully compatible with the ISO 11898 standard

Introduction

The ICF-1170I series CANbus-to-fiber converters are used to convert CAN signals from copper to optical fiber. The converters come with 2 KV optical isolation for the CANbus system and dual power inputs with alarm contact relay to ensure that your CANbus system will remain online.

Fiber Test Mode

Fiber Test Mode can be used to test the fiber cable between two ICF-1170I units, and provides a simple way to determine if the fiber cable is transmitting data correctly. When in Fiber Test Mode, the fiber transceiver (TX) will continuously send out a data signal and the “Fiber TX” LED will light up. On the other side of the connection, when the ICF-1170I fiber transceiver (RX) receives the data signal form the TX side, the “Fiber RX” LED will light up.

Specifications

CAN Communication

CANbus Interface: ISO 11898-2, Terminals (CAN_H, CAN_L,CAN_GND)

Protocols: CAN 2.0A and 2.0B (ISO 11898-2)

Connector Type: 3-pin removable screw terminal x1

Termination Resistor: Dip switch selector for 120 Ω terminal resistor

Buadrate: Up to 1 Mbps

System Delay: 150 ns

Isolation Protection: 2 KV

Transmission Distance: Max 2 km (depends on the data rate and the protocol used)

LED Indicators: PWR1, PWR2, Fiber TX, Fiber RX

Note: The transmission distance is limited by the signal rate, as mentioned in the ISO 11898-2 standard

Fiber Communication

Connector Type: ST (multi-mode) fiber ports x 2

Support Cable: 50/125, 62.5/125, or 100/140 µm (multi-mode)

Wavelength: 850 nm

TX Output: Multi-mode (> -5 dBm)

Rx Sensitivity: Multi-mode (-20 dBm)

Physical Characteristics

Housing: Aluminum (1 mm)

Dimensions: 30.3 x 70 x 115 mm (11.9x27.6x45.3 in)

Weight:
Product only: 175 g (0.39 lb)
Packaged: 320 g (0.71 lb)

Environmental Limits

Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)

Operating Humidity: 5 to 95% RH

Storage Temperature: -40 to 85°C (-40 to 185°F)

Power Requirements

Input Voltage: 12 to 48 VDC dual power inputs for redundant power

Power Consumption:
ICF-1170I: 221 mA @ 12 V
Alarm Contact: 1 relay output with current carrying of 1 A @ 24 VDC

Voltage Reversal Protection: Protects against V+/V- reversal

Over Current Protection: 1.1 A (protects against two signals shorted together)

Regulatory Approvals

CE: Class A

FCC: Part 15 sub Class A

UL: UL-508

TÜV: EN 60950-1

EMI: EN55022 1998, Class A

EMS:
EN61000-4-2 (ESD), Criteria B, Level 4
EN61000-4-3 (RS), Criteria A, Level 2
EN61000-4-4 (EFT), Criteria B, Level 4
EN61000-4-5 (Surge), Criteria B, Level 2
EN61000-4-6 (CS), Criteria B, Level 2
En61000-4-8 (PFMF), Criteria A, Level 3

Freefall: IEC 60068-2-32

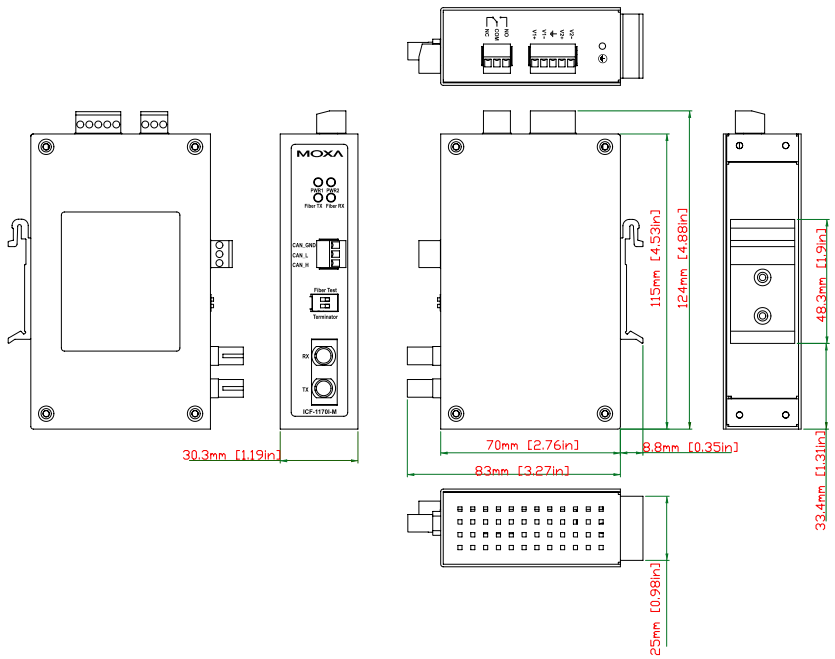
MTBF: 792085 hrs

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions



Ordering Information

Available Models

ICF-1170I-M-ST: CANbus to fiber converter, multi-mode, ST connector, 0 to 60°C

ICF-1170I-M-ST-T: CANbus to fiber converter, multi-mode, ST connector, -40 to 85°C

Package Checklist

- ICF-1170I CANbus to Fiber Converter
- Quick Installation Guide (printed)
- Warranty Card